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PSC Overview Series . . .

Merchant Plants and Other Non-Utility Electric Generation

Public Service Commission of Wisconsin

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This Overview describes the current place of competition in electricity generation. It clarifies who, besides electric utilities, may own and operate power plants. It also discusses who might buy the energy these power plants produce.

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What is Non-Utility Electric Generation?

Traditionally, large electric utilities have owned and operated the power plants that provide electricity for their customers. Non-utility generation refers to a broad category of generating facilities that are not owned by an electric utility. They range in size from large, custom-designed power plants of several hundred megawatts, to wind machines developed to meet the needs of an individual homeowner.

What is a Merchant Plant?

A merchant plant is a class of non-utility generation where all or a portion of the electrical output from a power plant is sold into a competitive market and is not dependent upon long-term sales contracts with electric utilities.

Why has Non-Utility Generation Become an Issue Recently?

During the past decade, many changes have occurred in the electric utility industry and in the regulation of the industry by the state and federal governments. On the customer side of the meter, utilities and state regulatory commissions have been encouraging conservation measures and efficiency improvements as a way of avoiding the need to build new power plants.

Significant changes are also occurring in the generation of electricity. Federal and state regulators, some utilities, and some large industrial customers have encouraged the use of competition as a potential way to lower the cost of producing electricity. Non-utility generation is one area where competition has increased.

Non-utility generation has been encouraged by the Public

Utilities Regulatory Policies Act (PURPA). In particular, the Federal Energy Act of 1978, PURPA, encouraged the development of power plants which either use fuel more efficiently than conventional power plants, or use renewable resources, such as wind and wood. Additionally, the Federal Energy Act of 1992 changed existing laws to allow the formation of new types of companies called Exempt Wholesale Generators (EWGs). These EWGs are exempt from laws which have restricted the types of companies that can own power plants.

The Energy Policy Act of 1992 also requires utilities to allow non-utility generators to use their transmission lines to transmit electricity to distant markets. Because of this change and others, some utilities believe that it is more efficient and less risky for utilities to purchase electricity from non-utility generators than to build their own power plants.

Most observers expect that the next decade will be one of escalating competition and continuing change, and that non-utility generation will become increasingly important.

Are Non-Utility Generation and Merchant Plants New?

No. Since electrical generating equipment became commercially available around the turn of the century, it has been relatively common for large industrial companies to own generating plants at their factories to produce all or part of their electric needs. However, rarely did these customers produce excess electricity for sale to a utility or to wholesale customers.

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specifications are better than available alternatives. While they must still meet environmental laws, merchant plants from some of the current regulations for power plants.

Is it Likely There Will be More Non-Utility Generation in Wisconsin in the Future?

Yes. Instead of building their own power plants to supply electricity, it is likely that utilities will purchase an increasing share of their electricity needs from non-utility generators.

What if There is not Enough Non-Utility Generation Available for Purchase by a Utility?

If there were not enough power available for purchase, a utility would indicate a need for generation by opening a Request for Proposal (RFP) process. The PSC has developed a bidding process as a way to select among competing offers. Bidders, including any utilities, are required to submit a bid along with adequate information on which to evaluate it. The utility needing the electricity recommends to the PSC the bid it believes will provide the needed power at the least overall cost.

The PSC decides whether to approve the utility's selection or choose one of the other alternatives. Under state law if it is not a merchant plant, the PSC must not only consider costs, but also engineering, economic, safety, reliability, and environmental factors, as well as alternative sources of supply.

Whom can I Contact for Further Information?

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Non-utility generation can supply complete, partial, or stand-by electricity needs for individual, commercial, or industrial purposes. When electricity is produced solely for the use of the individual or entity generating it and is not intended for sale to utilities, it is referred to as "inside the fence."

Some private individuals or entities develop alternative sources of power, such as wind, hydro, or solar for the specific purpose of selling to utilities. These are usually smaller power producers.

As a result of PURPA and the Energy Policy Act of 1992, commercially owned entities, known as independent power producers (IPPs), build or purchase and operate large-scale power plants to generate electricity specifically for resale to utilities or other wholesale customers.

What is Customer-Owned Generation?

This term refers to power plants which are owned by a customer of the utility, such as a homeowner or industrial customer, rather than owned by another generating company. This could include a cogeneration facility owned and operated by a paper mill, a wind machine owned by a residential customer, or a stand-by generator in a hospital.

Many electric utility customers, such as hospitals, need extremely reliable electric service. Other facilities, such as large office buildings, may need a back-up source of electricity to provide emergency lighting in the event of a power failure. Therefore, hospitals and large office buildings often install stand-by generators powered by gasoline or diesel engines which automatically start in the event of a power outage.

For safety reasons, the electricity generated by stand-by generators usually cannot flow onto a utility's distribution system. A recently developed technology allows the use of

stand-by generation to provide generating capacity to a utility in the event of a power shortage.

What is Cogeneration?

Cogeneration, often confused with the term "customer generation," actually refers to the production of both electricity and useful thermal energy (heat) from the same fuel. Typically, the thermal energy is in the form of steam. The most likely applications for cogeneration are the industrial plants and commercial facilities that have large thermal energy loads such as paper mills, food processing plants, and chemical and oil refineries. For example, paper mills have large electric loads and use large amounts of heat to dry paper. Since their steam and electricity needs are relatively constant around the clock and throughout the year, paper mills tend to be good candidates for cogeneration.

What is an Independent Power Producer?

An independent power producer (IPP), is an entity, independent of a utility, which produces electricity for sale to a utility. Typically the term IPP applies to entities which build large utility-scale power plants.

Entities that own power plants are subject to the Public Utility Holding Company Act (PUHCA). This is a federal law, enacted during the 1930s, to prevent financial abuses by large utility holding companies. PUHCA has generally prevented utilities from owning power plants which are built solely to sell electricity to other utilities. Until recently, non-utility companies had been reluctant to build power plants solely to sell electricity because PUHCA contains strict reporting and ownership requirements.

However, the Federal Energy Policy Act of 1992 created a new

class of facilities which are exempt from the provisions of PUHCA. These Exempt Wholesale Generators (EWGs) may only sell electricity to utilities and can not sell directly to a retail customer.

Must Utilities Purchase Electricity From Non-Utility Generators?

PURPA (discussed on page 1) requires utilities to purchase electricity from qualifying facilities at the utility's "avoided cost." Avoided costs are those the utility would incur if it had to produce the electricity itself or buy it from another source. A "buy-back rate" is the price an electric utility pays to a non-utility generator for electricity. Typically the price is based on the utility's avoided cost.

What is a Qualifying Facility?

A facility can "qualify" for rights under PURPA in two ways, by qualifying as a small power producer or a cogenerator. A small power producer is a generating facility which utilizes a renewable resource such as wind, wood, or water power. Cogeneration plants can be qualifying facilities by meeting certain standards for the efficiency with which they use fuel.

Are Non-Utility Generators Regulated in Wisconsin?

Generally, the same regulations except for cost recovery apply to both utility power plants and non-utility generators. The PSC regulates most issues concerning the location and environmental effects of a generating facility. The Wisconsin Department of Natural Resources regulates air emissions, and water use and discharges. Some changes came as a result of 1997 Wisconsin Act 204, which was effective May 12, 1998. It expressly exempts wholesale merchant plants from meeting a "needs" test or demonstrating how its engineering